Electronic TUBES

6BS8—4BS8

TWIN TRIODE

FOR VHF CASCODE AMPLIFIER APPLICATIONS

DESCRIPTION AND RATING

The 6BS8 is a miniature, medium-mu twin triode designed for use as a VHF cascode amplifier. In this application, section two (pins 1, 2, and 3) is intended for the input section.

Except for heater ratings, the 4BS8 is identical to the 6BS8. In addition, the 4BS8 incorporates a controlled heater-warm-up characteristic which makes it especially suited for use in television receivers that employ series-connected heaters.

GENERAL

ELECTRICAL

	4BS8	6BS8	
Cathode—Coated Unipotential			
Heater Voltage, AC or DC	4.2	6.3	Volts
Heater Current	0.6	0.4	Amperes
Heater Warm-up Time*	11		Seconds

Direct Interelectrode Capacitances†	Section 1	Section 2	
Grid to Plate	1.15	1.15	μμf
Input	2.6		μμf
Output	1.35		μμf
Heater to Cathode	2.6	2.7	μμf
Plate Section 2, to Plate and Grid, Section 1, maximum	0.024		μμf
Plate to Plate, maximum	0.01		μμf
Plate to Cathode, maximum	0.15	0.15	μμf
Grounded-Grid Input		4.95	μμf
Grounded-Grid Output		2.27	μμf

MECHANICAL

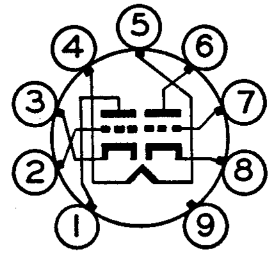
Mounting Position—Any
Envelope—T-6½, Glass
Base—E9-1, Small Button 9-Pin

MAXIMUM RATINGS

DESIGN-CENTER VALUES EACH SECTION

Plate Voltage	150	Volts
Plate Dissipation	2.0	Watts
DC Cathode Current	20	Milliamperes
Heater-Cathode Voltage		
Heater Positive with Respect to Cathode		
Total DC and Peak	200	Volts
Heater Negative with Respect to Cathode		
Total DC and Peak	200	Volts
Grid Circuit Resistance	0.5	Megohms

BASING DIAGRAM

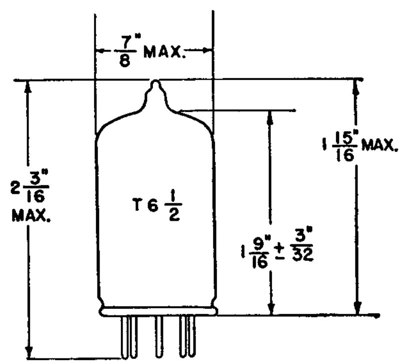


EIA 9AJ

TERMINAL CONNECTIONS

Pin 1—Plate (Section 2)
Pin 2—Grid (Section 2)
Pin 3—Cathode (Section 2)
Pin 4—Heater
Pin 5—Heater
Pin 6—Plate (Section 1)
Pin 7—Grid (Section 1)
Pin 8—Cathode (Section 1)
Pin 9—Internal Shield

PHYSICAL DIMENSIONS



EIA 6-2

GENERAL ELECTRIC

Supersedes ET-T1355A, dated 8-56

△Supersedes pages 1 and 2, dated 8-56

CHARACTERISTICS AND TYPICAL OPERATION

CLASS A_1 AMPLIFIER, EACH SECTION

Plate Voltage	150	Volts
Cathode-Bias Resistor	220	Ohms
Amplification Factor	36	
Plate Resistance, approximate	5000	Ohms
Transconductance	7200	Micromhos
Plate Current	10	Milliamperes
Grid Voltage, approximate‡		
Ib = 10 Microamperes	−7	Volts

CASCODE AMPLIFIER

Plate-Supply Voltage	250	Volts
Grid Voltage	−1.0	Volts
Transconductance	10000	Micromhos
Plate Current	16	Milliamperes
Grid Voltage, approximate		
G_m = 50 Micromhos	−6	Volts

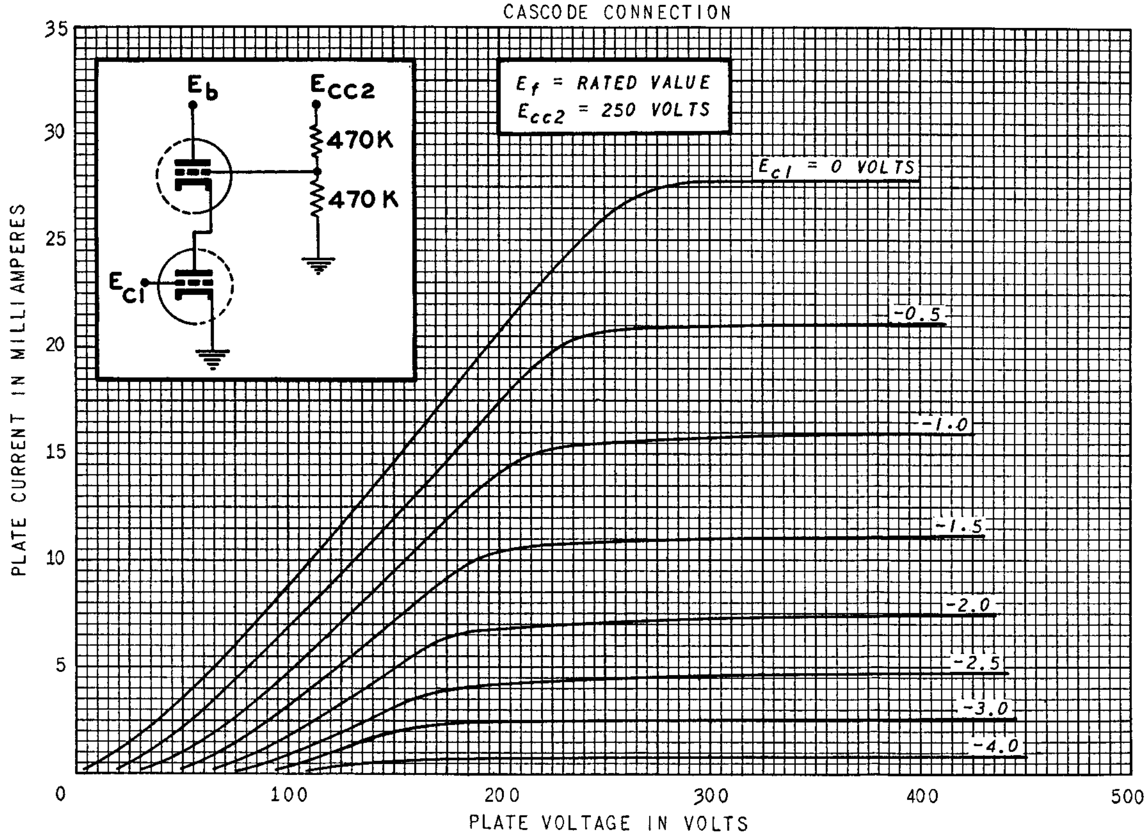
* The time required for the voltage across the heater to reach 80 percent of its rated value after applying 4 times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to 3 times the rated heater voltage divided by the rated heater current.

† With external shield (EIA-315) connected to pin 9.

‡ Section two only.

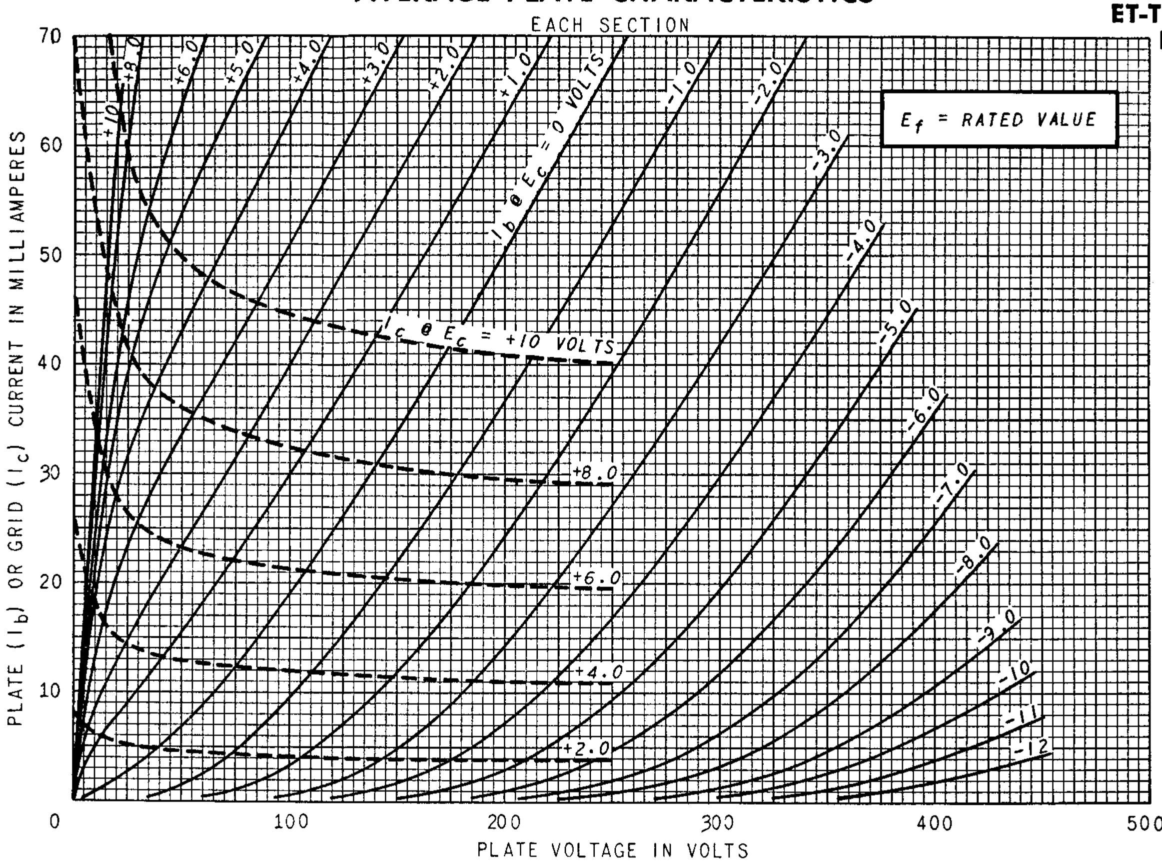
AVERAGE PLATE CHARACTERISTICS

CASCODE CONNECTION

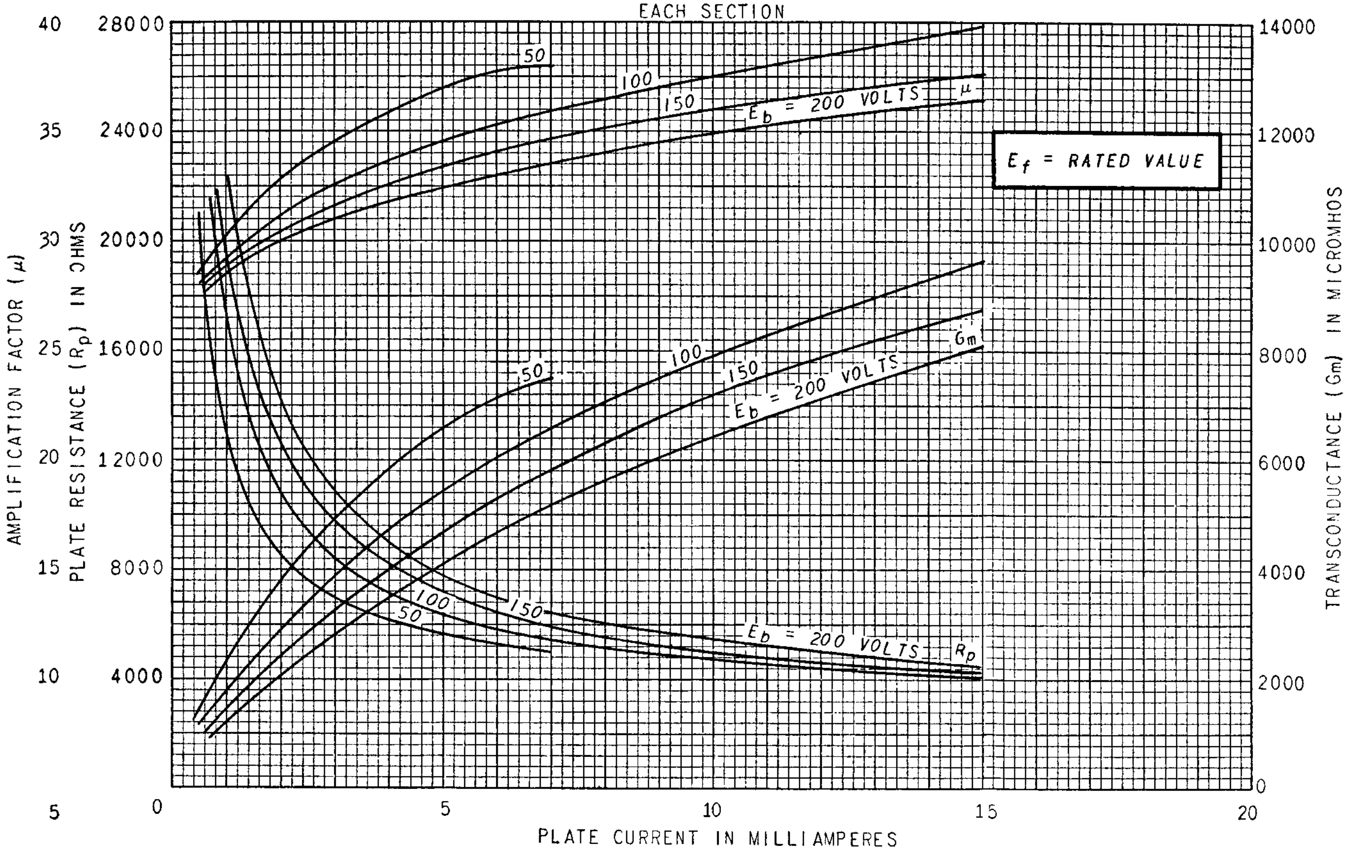


△*Supersedes pages 1 and 2, dated 8-56*

AVERAGE PLATE CHARACTERISTICS

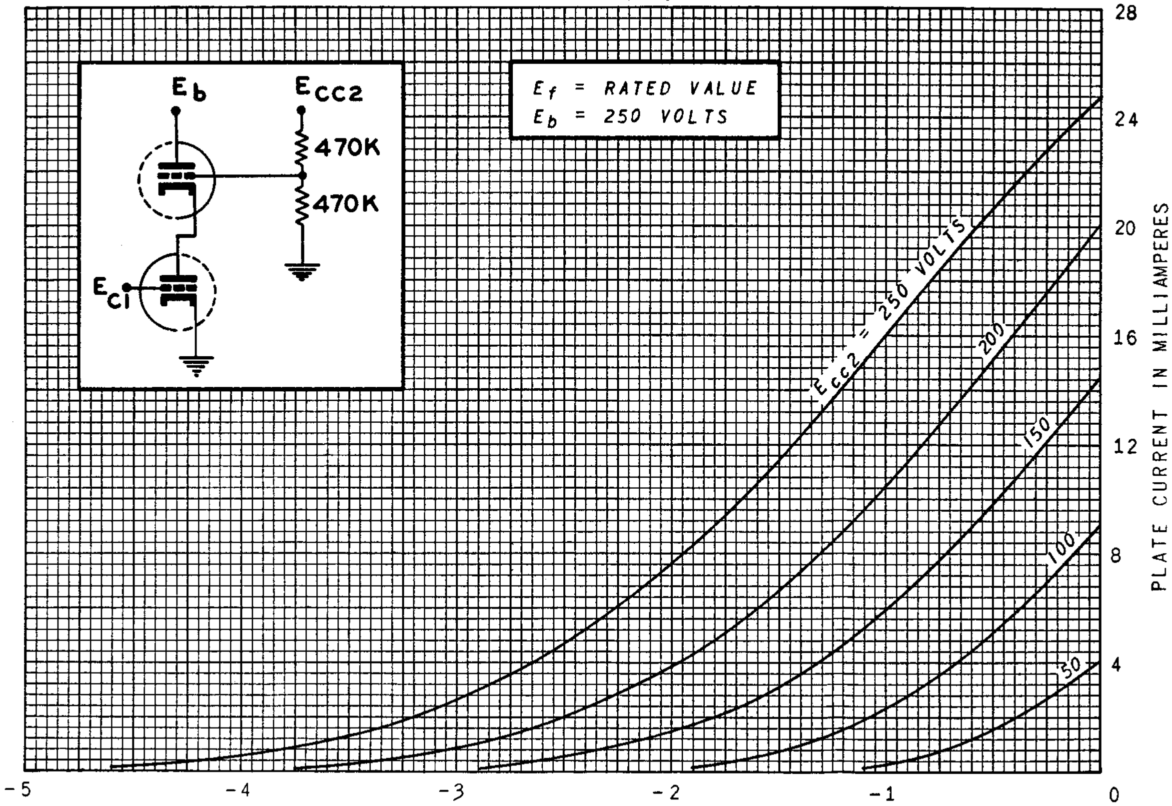


AVERAGE CHARACTERISTICS



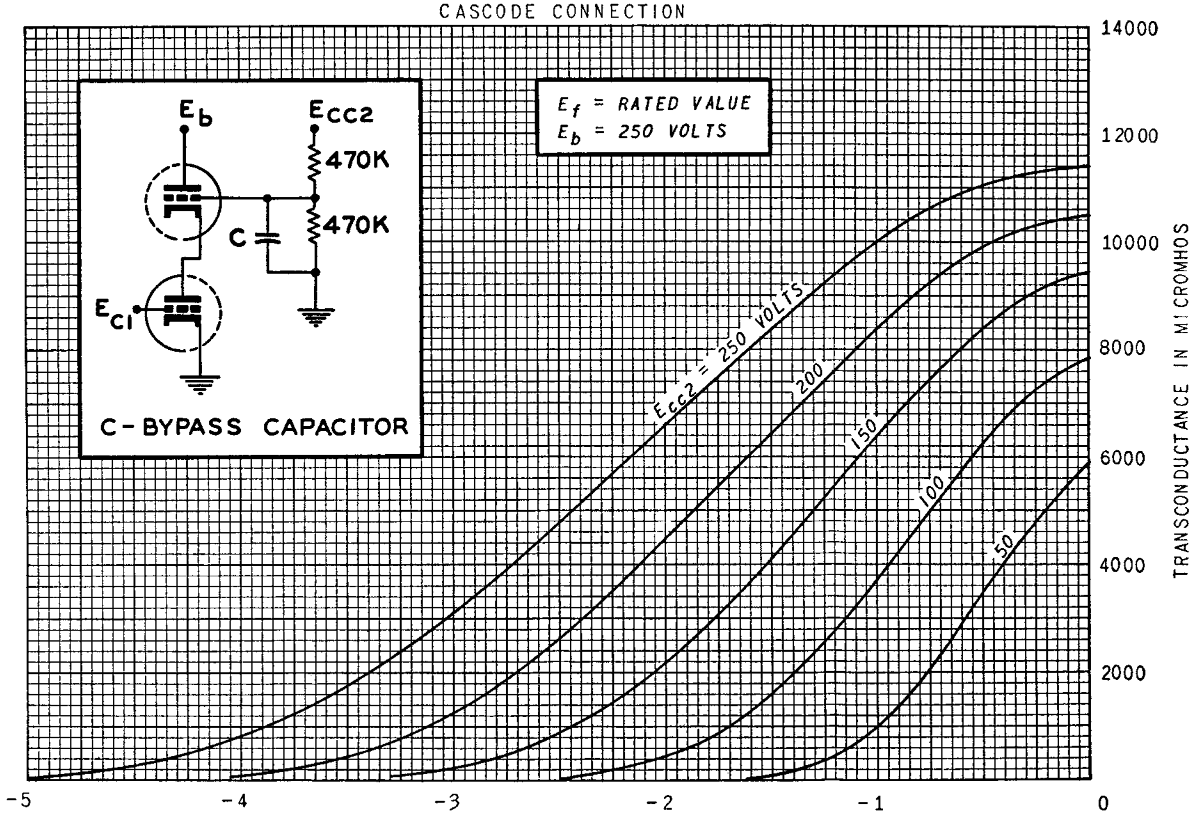
AVERAGE TRANSFER CHARACTERISTICS

CASCODE CONNECTION



AVERAGE TRANSFER CHARACTERISTICS

CASCODE CONNECTION



AVERAGE TRANSFER CHARACTERISTICS

